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to neutralize *district* anomalies, as well as those of a more strictly local character, will furnish, in their turn, a correction for the station error, if any, of the fixed observatory.

A paper was also read, entitled, " On the Calculation of Attractions, and the Figure of the Earth." By C. J. Hargreave, B.A., of University College. Communicated by John T. Graves, M.A., F.R.S., Professor of Jurisprudence, University College, London.

The principal object of the calculations contained in this paper is to investigate the figure which a fluid, consisting of portions, varying in density according to any given law, would assume, when every particle is acted upon by the attraction of every other, and by a centrifugal force arising from rotatory motion. That such has been the original condition of the earth has been assumed as the foundation of most of the mathematical calculations connected with this inquiry; although the hypothesis itself may admit of doubt. The principal difficulty of this problem consists in the computation of the attraction of a body of any given figure, and composed of strata varying in their densities according to any given law. In solving it, the author follows the steps of Laplace as far as the point where the equation, known by his name, first appears. It has, however, since been discovered by Mr. Ivory, that the theorem of Laplace is true only of spheroids of a particular kind, and consequently it is to this kind that Laplace's solution of the problem is restricted. The method given in the present paper is not confined in its operation to any particular class of spheroids; the coefficients of the series into which the required function is developed being determined absolutely, and without reference to the form of the spheroid to which they are to be applied. The principal change consists in the different manner of treating the partial differential equation; and its integration, effected by the author, renders the analysis more direct, the operations more simple, and the theory complete.

February 18, 1841.

The MARQUIS of NORTHAMPTON, President, in the Chair.

Sir Richard Jenkins, G.C.B., &c., John Clendinning, M.D., and Eaton Hodgkinson, Esq., were balloted for, and duly elected into the Society.

A paper was in part read, entitled, " Memoir on a portion of the Lower Jaw of an Iguanodon, and other Saurian Remains discovered in the strata of Tilgate Forest, in Sussex." By Gideon Algernon Mantell, Esq., LL.D., F.R.S.